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Preliminary Amendment

Customer No. 01933

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LISTING OF CLAIMS:

Claims 1-12 (Cancelled)

13. (New) Inverter type motor drive unit for feeding AC electric power of variable parameters to an electric motor, comprising:

an electronic control section (40),

5 a power converting and output section controlled by the control section (40),

two input terminals (25,26) for connection to a DC power source, and

10 three output terminals (32,33,34) for delivering a 3-phase AC power to an electric motor,

wherein the power converting and output section comprises:

one or more identical power modules (11a-11c), each comprising a complete 3-phase output stage,

15 said one or more power modules (11a-11c) are multiplied by a suitable number and interconnected in parallel to meet the power demand of the actual motor size,

and wherein:

said one or more power modules (11a-11c) are mounted side by

side in a multiplying direction (A) on a cooling structure (10),
20 thereby covering a certain surface area substantially
corresponding in size to the surface area covered by the actual
number of power modules (11a-11c), and

said one or more power modules (11a-11c) are connected to
said DC input terminals (25,26) and said AC output terminals
25 (32,33,34) via conductive layers (20,21,27a-27c) which are
electrically insulated from each other and extend substantially
in parallel with said cooling structure (10) and covering
substantially all of said certain surface area.

14. (New) Motor drive unit according to claim 13, wherein
one of said conductive layers (27a-27c) is divided into three
separate leads (27a-27c) extending in parallel to each other
across said power modules (11a-11c) in said multiplying direction
5 (A) and connecting said one or more power modules (11a-11c) in
parallel to said AC output terminals (32,33,34).

15. (New) Motor drive unit according to claim 14, wherein:
all of said conductive layers (20,21,27a-27c) comprise
separate metal sheets, and
a number of retaining devices (14) are arranged both to

5 connect said metal sheets (20,21,27a-27c) to said one or more power modules (11a-11c) and to clamp said one or more power modules (11a-11c) into a physical heat transferring contact with said cooling structure (10).

16. (New) Motor drive unit according to claim 15, wherein:
two of said metal sheets (20,21) are connected to said DC input terminals (2546), and

said one or more power modules (11a-11c) are connected to
5 capacitor banks (13a-13c) via said two metal sheets (20,21).

17. (New) Motor drive unit according to claim 15, wherein:
each one of said retaining devices (14) comprises a clamping member (16) and a distance piece (15) for locating each metal sheet (20,21,27a-27c) at a specific distance from said power
5 modules (11a-11c), and

said distance pieces (15) are electrically conductive and serve to establish an electrical as well as thermal contact between said metal sheets (20,21,27a-27c) and said power modules (11a-11c).

18. (New) Motor drive unit according to claim 17, wherein:
each one of said distance pieces (15) comprises a metallic
tube element, and

each one of said clamping members (16) comprises a screw
5 extending axially through said tube element (15).

19. (New) Motor drive unit according to claim 13, wherein:
all of said conductive layers (20,21,27a-27c) comprise
separate metal sheets, and

a number of retaining devices (14) are arranged both to
5 connect said metal sheets (20,21,27a-27c) to said power modules
(11a-11c) and to clamp said one or more power modules (11a-11c)
into a physical heat transferring contact with said cooling
structure (10).

20. (New) Motor drive unit according to claim 19, wherein:
two of said metal sheets (20,21) are connected to said DC
input terminals (2546), and

said one or more power modules (11a-11c) are connected to
5 capacitor banks (13a-13c) via said two metal sheets (20,21).

21. (New) Motor drive unit according to claim 19, wherein:
each one of said retaining devices (14) comprises a clamping
member (16) and a distance piece (15) for locating each metal
sheet (20,21,27a-27c) at a specific distance from said one or
5 more power modules (11a-11c), and

said distance pieces (15) are electrically conductive and
serve to establish an electrical as well as thermal contact
between said metal sheets (20,21,27a-27c) and said power modules
(11a-11c).

22. (New) Motor drive unit according to claim 21, wherein:
each one of said distance pieces (15) comprises a metallic
tube element, and

each one of said clamping members (16) comprises a screw
5 extending axially through said tube element (15).

23. (New) Motor drive unit according to claim 3, wherein
the control section (40) comprises a circuit board (41) supported
by at least one of said one or more power modules (11a-11c) in a
parallel but spaced disposition relative to said metal sheets
5 (20,21,27a-27c) via contact devices (42) extending through

apertures in said metal sheets (20,21,27a-27c).

24. (New) Motor drive unit according to claim 16, wherein the control section (40) comprises a circuit board (41) supported by at least one of said one or more power modules (11a-11c) in a parallel but spaced disposition relative to said metal sheets (20,21,27a-27c) via contact devices (42) extending through apertures in said metal sheets (20,21,27a-27c).

25. (New) Motor drive unit according to claim 17, wherein the control section (40) comprises a circuit board (41) supported by at least one of said one or more power modules (11a-11c) in a parallel but spaced disposition relative to said metal sheets (20,21,27a-27c) via contact devices (42) extending through apertures in said metal sheets (20,21,27a-27c).

26. (New) Motor drive unit according to claim 18, wherein the control section (40) comprises a circuit board (41) supported by at least one of said one or more power modules (11a-11c) in a parallel but spaced disposition relative to said metal sheets (20,21,27a-27c) via contact devices (42) extending through apertures in said metal sheets (20,21,27a-27c).

27. (New) Motor drive unit according to claim 19, wherein the control section (40) comprises a circuit board (41) supported by at least one of said power modules (11a-11c) in a parallel but spaced disposition relative to said metal sheets (20,21,27a-
5 27c) via contact devices (42) extending through apertures in said metal sheets (20,21,27a-27c).

28. (New) Motor drive unit according to claim 20, wherein the control section (40) comprises a circuit board (41) supported by at least one of said one or more power modules (11a-11c) in a parallel but spaced disposition relative to said metal sheets
5 (20,21,27a-27c) via contact devices (42) extending through apertures in said metal sheets (20,21,27a-27c).

29. (New) Motor drive unit according to claim 21, wherein the control section (40) comprises a circuit board (41) supported by at least one of said one or more power modules (11a-11c) in a parallel but spaced disposition relative to said metal sheets
5 (20,21,27a-27c) via contact devices (42) extending through apertures in said metal sheets (20,21,27a-27c).

30. (New) Motor drive unit according to claim 22, wherein the control section (40) comprises a circuit board (41) supported by at least one of said one or more power modules (11a-11c) in a parallel but spaced disposition relative to said metal sheets (20,21,27a-27c) via contact devices (42) extending through apertures in said metal sheets (20,21,27a-27c).

31. (New) Motor drive unit according to claim 15, wherein: said conductive metal sheets (20,21,27a-27c) are insulated relative to each other by separate insulating sheets (19,30) of a non-conductive material sandwiched between said metal sheets (20,21,27a-27c), and

said metal sheets (20,21,27a-27c) and said insulating sheets (19,30) are arranged and fixed in a stack by said clamping members (16) and said distance pieces (15).

32. (New) Motor drive unit according to claim 31, wherein one or more guide elements (36a-36c) of an insulating material are provided with stud portions (37a-37c) which penetrate through openings in said metal sheets (20,21,27a-27c) as well as said insulating sheets (19,30) to, thereby, locate said metal sheets (20,21,27a-27c) and said insulating sheets (19,30) relative to

each other prior to said metal sheets (20,21,27a-27c) and said insulating sheets (19,30) being finally fixed by said clamping members (16) and said distance pieces (15) at mounting of said stack on said cooling structure (10).

33. (New) Motor drive unit according to claim 16, wherein:
said conductive metal sheets (20,21,27a-27c) are insulated relative to each other by separate insulating sheets (19,30) of a non-conductive material sandwiched between said metal sheets (20,21,27a-27c), and

said metal sheets (20,21,27a-27c) and said insulating sheets (19,30) are arranged and fixed in a stack by said clamping members (16) and said distance pieces (15).

34. (New) Motor drive unit according to claim 19, wherein:
said conductive metal sheets (20,21,27a-27c) are insulated relative to each other by separate insulating sheets (19,30) of a non-conductive material sandwiched between said metal sheets (20,21,27a-27c), and

said metal sheets (20,21,27a-27c) and said insulating sheets (19,30) are arranged and fixed in a stack by said clamping members (16) and said distance pieces (15).

35. (New) Motor drive unit according to claim 20, wherein one or more guide elements (36a-36c) of an insulating material are provided with stud portions (37a-37c) which penetrate through openings in said metal sheets (20,21,27a-27c) as well as said
5 insulating sheets (19,30) to, thereby, locate said metal sheets (20,21,27a-27c) and said insulating sheets (19,30) relative to each other prior to said metal sheets (20,21,27a-27c) and said insulating sheets (19,30) being finally fixed by said clamping members (16) and said distance pieces (15) at mounting of said
10 stack on said cooling structure (10).

36. (New) Motor drive unit according to claim 34, wherein one or more guide elements (36a-36c) of an insulating material are provided with stud portions (37a-37c) which penetrate through openings in said metal sheets (20,21,27a-27c) as well as said
5 insulating sheets (19,30) to, thereby, locate said metal sheets (20,21,27a-27c) and said insulating sheets (19,30) relative to each other prior to said metal sheets (20,21,27a-27c) and said insulating sheets (19,30) being finally fixed by said clamping members (16) and said distance pieces (15) at mounting of said
10 stack on said cooling structure (10).

37. (New) Motor drive unit according to claim 13, wherein:
said conductive layers (20,21,27a-27c) comprise separate
metal sheets (20,21,27a-27c), and

5 said DC input terminals (25,26) and said AC output terminals
(32,33,34) are located at opposite ends of said metal sheets
(20,21,27a-27c) in relation to said multiplying direction (A).

38. (New) Motor drive unit according to claim 14, wherein:
said conductive layers (20,21,27a-27c) comprise separate
metal sheets (20,21,27a-27c), and

5 said DC input terminals (25,26) and said AC output terminals
(32,33,34) are located at opposite ends of said metal sheets
(20,21,27a-27c) in relation to said multiplying direction (A).

39. (New) Motor drive unit according to claim 13, wherein
a signal bus means (44a,44b) extends across said one or more
power modules (11a-11c) in said multiplying direction (A) and is
arranged to connect said control section (40) to each one of said
5 one or more power modules (11a-11c) and communicating signals
between said control section (40) and said one or more power
modules (11a-11c).

40. (New) Motor drive unit according to claim 39, wherein said signal bus means (44a,44b) comprises at least one circuit board (44a,44b).

41. (New) Motor drive unit according to claim 14, wherein a signal bus means (44a,44b) extends across said one or more power modules (11a-11c) in said multiplying direction (A) and is arranged to connect said control section (40) to each one of said
5 one or more power modules (11a-11c) and communicating signals between said control section (40) and said one or more power modules (11a-11c).

42. (New) Motor drive unit according to claim 39, wherein said signal bus means (44a,44b) comprises at least one circuit board (44a,44b).